

DOCUMENT RESUME

ED 163 237

08

CE 018 909

AUTHOR McClurg, Ronald B.
TITLE Common Intra-Cluster Competencies Needed in Selected Occupational Clusters. Final Report. Supplemental Volume X: Medical Lab Technician.
INSTITUTION Des Moines Area Community Coll., Ankeny, Iowa.
SPONS AGENCY Bureau of Occupational and Adult Education (DHEW/OE), Washington, D.C.
BUREAU NO 409AH60116
PUB DATE May 78
GRANT G007603320
NOTE 55p.; Not available in hard copy due to reproducibility problems. For related documents see CE 018 899-916

EDRS PRICE MF-\$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS Cluster Grouping; *Data Analysis; *Health Occupations; *Job Analysis; *Job Skills; Medical Laboratory Assistants; *Medical Technologists; Occupational Clusters; *Task Analysis

ABSTRACT

An analysis of survey responses from a sample of medical laboratory technicians on competency characteristics for their occupation is presented in this document. (Medical laboratory technician is one of seventeen occupation groups included in this research.) The competencies are reported in five categories: (1) those competencies selected by the respondents from a list of 720 health occupations competencies; (2) the percentage rate which respondents reported practicing the competency item; (3) type of competency (indicated as the performance of a physical skill or action, or an understanding or mental comprehension); (4) use frequency (daily, weekly, monthly); and (5) training needed to achieve proficiency in that competency (formal instruction, demonstration, on-the-job). (The final report of the survey is available as CE 018 899. Survey results for the other occupational groups are also available--see CE 018 900-916.) (JH)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

ED163237

Final Report

Project No. 498 AH 60116

Grant No. G007 603 320

Ronald B. McClurg, Ph.D.
Des Moines Area Community College
2006 Ankeny Boulevard
Ankeny, Iowa 50021

Common Intra-Cluster Competencies Needed in Selected
Occupational Clusters

Supplemental Volume X: Medical Lab Technician

May, 1978

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
Office of Education
Bureau of
Occupational and Adult Education

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

CE 018 909

Forward

This volume contains detailed competency characteristics collected in the vocational education research project entitled "Common Intracluster Competencies Needed in Selected Occupational Clusters - Health Occupations".

The information herein summarizes the responses of one of the seventeen occupational groups included in the research. The study included 720 individual competency items, both skills and understandings, which were presented to a sample of health occupation employees in Iowa and/or the central states area.

The data included in this volume summarizes the responses by those surveyed in the occupation listed on the cover.

Description of the Data

Essentially five competency characteristics are presented on the pages that follow. The total number of respondents to the survey is indicated following the table heading in the format N=__. Those characteristics include:

1. Competencies reported by respondents -

The first column is a list of the competencies reported by respondents. Each competency carries the item number from the comprehensive listing utilized in the research process and as presented in the main report. Competencies not reported by respondents were not included to preserve space.

2. Practice rate -

The second column presents the percentage rate which respondents reported practicing the competency item. Practice rates of fifteen percent or less are indicated by an asterisk (*) and lack additional characteristic percentage computations because of their small cell size.

The remaining three competency characteristics represent responses of those who indicated that they practiced the competency.

3. Type of competency -

Columns three and four indicate the percentage of the type of competency which respondents indicated characterized the nature of their activity. An "S" indicates the performance of a physical skill or physical action, while a "U" reflects that an understanding or mental comprehension only was needed for the competency. (See the Glossary in the main report for working definitions of skill and understanding).

4. Use frequency -

Distribution of the percentage of frequency which competencies were practiced, for those who reported possession of them, is presented in columns five, six, and seven. "D" in column five represents a competency exercised daily, "W" in column six represents a weekly frequency, while "M" in column seven reflects monthly or less frequent practice.

5. Training needed -

The final three columns summarize the percentage distribution of the nature of training which respondents felt was necessary to achieve proficiency in the competency. The "I" in column eight represents formal instruction, such as would be presented in an academic setting. A "D" (column nine) indicates that a demonstration of how to perform the competency is all that is needed to achieve proficiency, while "E" in column ten indicates that on-the-job exposure is adequate for developing the competency.

Rounded, whole-number percent figures were used in the preparation of this report, since the findings were considered to represent trends more than finite characteristics. Multiple column computations were forced to total 100 percent by the rounding process except for those items where equal numbers in each of three columns were reported. In those cases the total of 99 percent reflects all responses reported.

Using the Data

Possible uses and applications of the data are presented in the main body of the research report. The material presented in this supplementary volume will be of most value to those concerned solely with the occupational field which is treated herein.

Competency Characteristics Reported by MEDICAL LAB TECHNICIAN (by percent) N=45

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
1. Seek guidance to improve performance in patient care.	47	57	43	43	29	29	29	14	57
2. Participate in/conduct demonstrations of procedures and equipment (in-service).	46	58	42	15	8	77	38	14	38
3. Orient new personnel to unit facilities, routines and other personnel.	60	89	11	20	20	60	44	12	44
4. Advise health professionals on the technicalities and procedures involved in operating special equipment.	35	67	33	11	11	78	67	11	22
5. Practice established routines and policies of the health care facility.	60	89	11	100	0	0	44	0	56
6. Supervise subordinates within the health care facility.	19	40	60	80	0	20	80	0	20
7. Give "on the job" instruction.	73	91	9	36	18	46	34	8	58
8. Advise staff concerning medical jurisprudence.	*								
9. Develop criteria for the selection of records for review and retention.	33	20	80	20	20	60	80	0	20
10. Establish work priorities and schedule work assignments.	31	25	75	44	44	12	44	0	56
11. Identify operational deficiencies and recommend corrections.	60	56	44	44	0	56	56	11	33

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
12. Evaluate subordinate employee performance.	15	50	50	33	33	33	25	0	75
13. Develop job description.	33	60	40	20	0	80	20	20	60
14. Consult with health professionals on purchasing/ constructing/using special appliances.	*								
15. Interview/evaluate/hire prospective personnel.	27	50	50	25	0	75	50	0	50
16. Maintain standards of employees' personal hygiene as related to job performance.	15	25	75	50	0	50	25	25	50
17. Insure that all subordinates are on duty.	27	75	25	75	0	25	0	25	75
18. Attend and participate in staff meetings.	27	43	57	0	22	78	33	0	67
19. Develop policies and establish departmental procedures.	27	50	50	25	0	75	75	0	25
20. Inform personnel of new or changed policies and procedures.	23	50	50	17	0	83	33	0	67
21. Provide liaison between doctor and other pro- fessional associates.	40	67	33	83	0	17	17	0	83
22. Review and approve employee's payroll time and salary.	15	25	75	0	50	50	50	0	50
23. Coordinate work schedules with other departments.	27	25	75	25	25	50	25	0	75

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
24. Teach special procedures to department members/ students/health care professionals.	46	67	33	17	8	75	58	0	42
25. Teach safety techniques as needed.	53	63	37	25	0	75	38	24	38
26. Develop hospital disaster plan.	*								
27. Inform personnel of potential hazards in their working areas.	53	63	37	25	0	75	24	38	38
28. Demonstrate tact in giving and withholding infor- mation concerning patient care/operations of the health care facility.	27	29	71	88	0	12	25	13	62
29. Represent the department and facility at community meetings.	27	50	50	25	25	50	0	50	50
32. Assist in the orientation of volunteers, students, and new staff.	46	67	33	17	0	83	33	0	67
33. Recommend materials to be used in training volun- teers.	27	100	0	0	33	67	20	20	60
34. Train volunteers in specific techniques.	*								
35. Participate in public relation activities as directed.	30	50	50	0	17	83	33	17	50
36. Conduct tours of facilities.	23	67	33	0	0	100	33	0	67
40. Assist patient in and out of bed.	15	100	0	25	25	50	0	25	75

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
41. Assist patient in walking.	20	67	33	67	0	33	50	0	50
42. Transport patient on stretcher/wheelchair.	15	100	0	0	25	75	0	25	75
44. Assist patient in use of commode, urinal or bedpan.	*								
46. Assist in resolving patient complaints.	15	25	75	25	0	75	50	25	25
51. Obtain information from patient/family.	53	100	0	63	13	24	13	25	62
53. Receive patient, explain tests and procedures to them and allay their fears.	53	100	0	75	0	25	38	12	50
54. Attend to patient's comfort before, during, and after examination/tests/treatment.	31	75	25	88	12	0	12	38	50
63. Assist in establishing a comfortable relationship between the patient and the health care professional.	40	83	17	67	0	33	33	17	50
64. Observe negative/positive physical and emotional responses to treatments, medications, nursing care, etc.	*								
65. Interpret patient's signs, symptoms, behavior, etc.	27	100	0	50	0	50	75	0	25
67. Observe patient's general physical condition, appearance, and behavior.	27	75	25	50	0	50	75	0	25

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
68. Observe, measure, and record patient fluid intake/output.	*								
69. Record and chart vital signs, height, weight and/or other conditions as directed by health care professional.	27	100	0	100	0	0	100	0	0
70. Account for isotope licensing/procurement.	*								
72. Maintain a use record on special equipment.	31	75	25	63	13	24	12	13	75
78. Maintain record of all requests for patient information.	*								
79. Obtain charts of patients for whom information is requested.	27	75	25	25	25	50	25	50	25
80. Prepare patient record folder (chart).	*								
82. Sort/file/organize documents, certificates, patient records, etc.	19	80	20	60	0	40	0	20	80
87. Prepare daily census.	20	67	33	67	33	0	33	0	67
89. Process mail and correspondence (both incoming and outgoing).	20	33	67	33	33	33	33	33	33
90. Process payroll time cards.	*								
92. Prepare requisitions.	42	91	9	36	28	36	0	27	73
93. Handle telephone calls.	67	90	10	90	0	10	20	30	50

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
95. Prepare correspondence/report/summary (not forms).	20	67	33	0	33	67	33	0	67
96. Direct storage/issue/safeguarding of security items.	*								
97. Mount, label and file radiographs.	27	75	25	50	25	25	25	0	75
104. Gather data to complete reports for government agencies.	*								
110. Establish and maintain a control system for location of medical record folders.	*								
111. Maintain catalogs of supplies and equipment.	27	50	50	50	0	50	50	0	50
112. Prepare statistical reports in regard to patient visits and procedures.	*								
114. Record information on blood record card.	46	75	25	66	17	17	27	27	46
115. Follow established procedure in filing incident reports.	33	40	60	0	20	80	60	40	0
116. Process loans of X-ray films.	*								
117. Maintain radiology work record for statistical purposes.	*								
118. Receive and record physician's verbal orders.	38	40	60	60	20	20	20	30	50

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
119. Transcribe physician's orders.	*								
120. Follow established procedures for processing authorization/accident report forms (autopsy, surgery, diagnostic tests, discharge forms).	*								
121. Apply restraints.	27	100	0	0	25	75	50	25	25
123. Open sterile packages and packs.	40	100	0	50	17	33	17	83	0
131. Use trochanter rolls, sandbags.	20	67	33	33	33	33	67	0	33
139. Assist with/apply T, straight, scultetus breast, and triangular (sling) binders.	27	75	25	50	0	50	25	50	25
141. Test urine for sugar and acetone.	87	92	8	84	8	8	24	38	38
142. Chemically prepare short-life isotopes (direct methods, and eluting a prepared column).	*								
143. Calibrate isotopes against a standard.	40	83	17	67	0	33	66	17	17
144. Prepare oral dose using measure for manufacturers bottle/by mixing and diluting.	*								
145. Prepare injections using measured/sterilized dose.	33	80	20	40	0	60	60	20	20
146. Set up instruments for operation in vitro/vivo studies.	42	100	0	82	0	18	50	20	30

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
147. Make simple dose calculations for in vitro/ vivo studies.	42	100	0	82	0	18	50	20	30
148. Accumulate and process data for doctor's inter- pretation.	42	73	27	100	0	0	45	27	18
150. Make simple dose calculations for tracer examinations.	*								
151. Evaluate adequacy of work space.	27	25	75	0	25	75	50	0	50
152. Examine scan test results for general credibility.	*								
153. Receive specimen from patient, record pertinent data on container, and place in proper storage.	53	75	25	75	0	25	13	37	50
154. Select proper accessories for radiographic techniques.	*								
155. Improvise or modify equipment for special requirements.	33	60	40	60	20	20	60	0	40
157. Operate a rectilinear scanner for conventional scanning/slow dynamic studies.	*								
158. Organize and store blood.	65	82	18	59	18	23	53	18	29
159. Operate a scintillation camera for slow dynamic/static studies.	*								

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
160. Perform preliminary interpretations of observations for doctor.	15	75	25	100	0	0	25	25	50
161. Assay wet chemical solutions for activity and contaminants.	20	33	67	67	0	33	67	0	33
163. Know and apply basic first aid techniques including artificial respiration and cardiac resuscitation.	23	67	33	50	0	50	83	0	17
165. Know the function of and be able to apply this knowledge to the use of special beds and frames.	27	50	50	50	0	50	75	0	25
167. Recognize the need to redo a cast.	20	100	0	0	33	67	67	0	33
173. Apply simple casts and splints.	20	67	33	0	33	67	67	0	33
175. Be familiar with various orthopaedic operative procedures and the equipment these procedures require.	20	33	67	33	33	33	67	0	33
180. Take and process X-rays.	*								
181. Practice patient and operatory safety measures and radiation.	20	100	0	67	33	0	67	33	0
184. Adjust voltage, amperage, and timer of X-ray machine.	*								

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
204. Receive and preserve biopsy specimens.	35	56	44	33	11	56	33	11	56
221. Prepare statistical reports.	33	40	60	0	20	80	60	0	40
223. Inform and advise administration as to trends and significant data.	*								
225. Check records (charts) for deficiencies.	33	60	40	60	20	20	100	0	0
227. Abstract information for record and list on discharge analysis form (manual processing).	*								
233. Transcribe from recording machines using magnetic belts or recorded discs.	20	67	33	33	33	33	33	0	67
235. Change discs, belts, or tapes on recording equipment.	20	67	33	0	33	67	67	0	33
236. Maintain daily production record.	15	50	50	75	0	25	50	25	25
237. Recommend policies for departmental functions.	20	33	67	0	33	67	67	0	33
404. Exercise precautions in administering and handling potentially dangerous agents.	*								
411. Connect catheters and tubing to drainage.	20	33	67	0	33	67	67	0	33
419. Do cultures (nose, throat, wound).	33	80	20	60	0	40	60	0	40
421. Review scheduled appointments with doctor.	20	0	100	0	0	100	50	0	50

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
424. Centrifuge sample of the urine specimen.	85	91	9	86	9	5	15	55	30
425. Perform bio-chemical tests (e.g., glucose, protein, etc.) using paper strips or tablet.	73	100	0	91	9	0	46	27	27
426. Perform bile tests (simple tablet method).	85	77	23	46	27	27	33	38	29
427. Examine urine specimens microscopically.	87	92	8	76	8	16	77	0	23
428. Obtain blood specimen from capillary,	77	100	0	67	10	23	25	30	45
429. Obtain blood specimen from vein.	93	93	7	86	0	14	50	0	50
430. Prepare and stain blood smears.	5	91	9	91	0	9	43	33	24
431. Perform hemoglobin test/hematocrit reading.	87	92	8	84	8	8	62	15	23
432. Perform red blood cell count (RBC).	85	82	18	76	10	14	90	5	5
433. Perform erythrocyte sedimentation rate (SED RATE).	87	85	15	46	31	23	62	15	23
434. Perform white blood cell count (WBC).	85	82	18	82	5	13	85	10	5
435. Operate colorimeter/hemoglobinometer/micro-hematocrit reader.	80	83	17	69	8	23	67	25	8
436. Operate manual/automatic cell counting equipment.	73	84	16	79	5	16	47	24	29
437. Inoculate specimen in culture media.	87	92	8	54	23	23	77	8	15

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
438. Prepare wet mounts.	65	88	12	29	6	65	69	31	0
439. Stain microbial specimens.	87	85	15	31	23	46	84	8	8
440. Examine stained specimens microscopically.	73	74	26	89	0	11	88	6	6
441. Assist in obtaining smears.	67	80	20	30	10	60	70	20	10
442. Assist in obtaining tissue specimens.	19	80	20	20	0	80	80	20	0
443. Use sterilization color indicators to test sterilizer.	47	100	0	14	29	57	63	25	12
444. Handle and store sterilized material to prevent contamination.	42	82	18	55	36	9	55	9	36
445. Assist physician during EKG test.	60	78	22	33	33	33	74	13	13
446. Monitor EKG graph for abnormal or erratic tracings.	19	20	80	20	0	80	100	0	0
447. Mount EKG graph on card.	67	80	20	44	22	34	33	44	23
448. Operate EKG machine.	46	83	17	25	17	58	42	33	25
449. Prepare a tray for routine/special procedures.	47	86	14	29	0	71	29	14	57
451. Administer heat, electrotherapy, light and ultrasonic treatment.	20	67	33	33	0	67	33	0	67

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
453. Assist physician in performing visual/hearing acuity tests.	20	67	33	0	33	67	33	0	67
455. Assist physician in performing scratch/patch test.	*								
457. Assist physician in application of cast.	27	50	50	50	25	25	50	0	50
458. Receive and primary process cultures.	54	93	7	54	8	38	58	21	21
459. Record/report colony counts on urine, etc.	67	80	20	40	10	50	80	0	20
460. Stain bacteriological smears.	77	85	15	26	37	37	53	32	15
461. Streak plates.	87	85	15	38	23	39	62	23	15
462. Cultivate mycology specimens for primary isolation.	35	56	44	25	25	50	88	0	12
463. Perform KOH preparation for dermatophytes.	53	63	37	0	29	71	76	12	12
464. Stain mycology specimens.	27	57	43	17	17	66	83	17	0
465. Examine specimens macroscopically/microscopically.	93	93	7	57	14	29	93	0	7
466. Perform concentration and flotation techniques.	27	100	0	33	33	33	83	17	0
467. Identify parastic and disease-carrying arthropods.	47	100	0	29	14	57	100	0	0
468. Identify protozoans, cestodes, nematodes, and trematodes.	42	55	45	20	20	60	90	0	10

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
469. Stain parasitological smears.	60	78	22	0	22	78	78	11	11
470. Perform antistreptolysin "o" titers.	73	79	21	21	32	47	79	17	4
471. Perform colloidal gold test.	60	44	56	0	14	86	72	14	14
472. Perform "C" reactive protein tests.	77	80	20	25	20	55	60	25	15
473. Perform febrile agglutination (e.g., salmonella) tests.	80	75	25	25	0	75	58	25	17
474. Perform heterophile presumptive test.	73	79	21	23	23	54	63	32	5
475. Perform infectious mononucleosis procedures monospot or monotest.	93	86	14	36	14	50	50	29	21
476. Perform latex fixation test.	65	82	18	30	35	35	65	29	6
477. Perform rheumatoid arthritis test (RA).	87	85	15	25	25	50	50	25	25
478. Perform and read agglutination tests.	77	80	20	45	30	25	70	30	0
479. Perform and read flocculation tests.	73	82	18	27	18	65	73	9	18
480. Perform VDRL test.	77	80	20	40	25	35	65	25	10
481. Perform bleeding time procedures.	93	93	7	14	36	50	64	14	22
482. Prepare and stain blood smears.	85	91	9	82	5	13	50	27	23

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
483. Perform clot retraction test.	87	85	15	8	8	84	62	15	23
484. Perform venous whole blood coagulation time tests.	73	94	26	58	11	31	75	15	10
485. Perform differential cell counts.	93	93	7	57	7	36	71	0	29
486. Perform eosinophil count.	77	80	20	24	8	68	74	16	10
487. Perform erythrocyte fragility tests.	73	91	9	9	18	73	73	9	18
488. Perform fibrinogen deficiency test.	58	60	40	27	13	60	80	13	7
489. Perform fibrinolysin tests.	80	83	17	11	11	78	75	8	17
490. Perform hematocrit tests.	85	95	5	77	14	9	45	23	32
491. Perform hemoglobin tests.	93	93	7	72	14	14	58	21	21
492. Prepare lupus erythematosus (L.E.) slides.	58	87	13	13	20	67	53	27	20
493. Stain and read malaria smears.	67	80	20	10	0	90	70	20	10
494. Perform partial thromboplastin time (PTT) test.	65	76	24	47	24	29	64	18	18
495. Perform platelet count.	93	93	7	29	29	42	71	0	29
496. Perform prothombin consumption and time test.	65	76	24	52	24	24	71	12	17

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
497. Perform reticulocyte cell count.	87	92	8	15	27	58	69	0	31
498. Perform erythrocyte sedimentation rate.	85	91	9	64	9	27	59	27	14
499. Perform sickle cell preparations.	73	91	9	0	18	82	64	9	27
500. Perform spinal fluid cell counts.	62	75	25	25	13	62	94	6	0
501. Perform acetone or ketone tests.	93	93	7	64	7	29	50	29	21
502. Perform Addis counts.	54	86	14	36	7	57	79	14	7
503. Perform Bence-Jones protein tests.	87	92	8	15	8	77	54	23	23
504. Perform bile tests.	65	88	12	50	0	50	56	9	35
505. Perform bilirubin test.	100	100	0	47	20	33	73	7	20
506. Perform true glucose tests.	85	91	9	77	14	9	59	9	32
507. Perform urine hemoglobin (blood) test.	93	100	0	64	7	29	50	29	21
508. Perform ph tests.	81	90	10	76	10	14	48	29	23
509. Perform porphyrins tests.	60	78	22	11	33	56	78	0	22
510. Perform pregnancy tests.	85	86	14	73	9	18	32	36	32
511. Perform qualitative urine protein tests.	73	100	0	45	9	46	45	36	19

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
512. Perform specific gravity tests.	73	100	0	45	9	46	45	36	19
513. Perform urobilinogen tests.	80	92	8	33	25	42	58	25	17
514. Perform acid phosphatase test.	65	71	29	38	19	43	69	19	12
515. Perform serum albumin tests.	93	100	0	50	7	43	71	7	22
516. Perform A/G ratio.	58	73	27	57	7	36	58	21	21
517. Perform blood alcohol test.	67	80	20	10	20	70	60	10	30
518. Perform alkaline phosphatase test.	54	79	21	59	6	35	69	19	12
519. Perform amylase test.	80	100	0	50	25	25	67	8	25
520. Perform bilirubin (direct/indirect) test.	73	79	21	58	10	32	68	16	16
521. Perform bromosulphalein retention (BSP) test.	67	70	30	0	22	78	70	10	20
522. Perform calcium tests.	65	76	24	53	12	35	59	18	23
523. Perform calculus analyses tests.	47	57	43	0	14	86	72	14	14
524. Perform carbon monoxide/carbon dioxide determinations.	31	88	12	50	0	50	50	37	13
525. Perform cephalin flocculations.	53	100	0	43	0	57	75	12	13

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
526. Perform chlorides tests.	58	80	20	69	13	18	47	33	20
527. Perform total cholesterol tests.	93	100	0	57	14	29	79	0	21
528. Perform creatine phosphokinase (CPK) tests.	58	73	27	60	13	27	57	21	22
529. Perform serum creatinine tests.	100	100	0	67	20	13	73	7	20
530. Perform creatinine clearance tests.	50	77	23	31	15	54	67	25	8
531. Perform enzyme analysis tests.	87	92	8	57	29	14	64	14	22
532. Perform gastric analysis tests.	50	77	23	38	8	54	67	25	8
533. Perform glucose tests.	100	93	7	80	20	0	73	7	20
534. Perform glucose tolerance tests.	77	80	20	50	5	45	55	20	25
535. Perform serum glutamic oxalacetic transaminase (SGOT) test.	87	92	8	64	21	15	64	7	29
536. Perform serum glutamic pyruvic transaminase (SGT) test.	58	67	33	40	7	53	64	22	14
537. Perform iceterus index tests.	67	70	30	11	11	78	70	10	20
538. Perform lactic dehydrogenase (LDH) test.	58	73	17	47	13	40	58	21	21
539. Perform lipase tests.	67	90	10	30	20	50	60	0	40

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
540. Perform blood oxygen tests.	46	75	25	42	16	42	73	18	9
541. Perform phenosulfonphthalein (PSP) excretion test.	67	70	30	22	0	78	60	10	30
542. Perform phosphorus tests.	54	71	29	50	14	36	62	23	15
543. Perform potassium determinations.	93	100	0	86	14	0	71	7	22
544. Perform urine prophyrin and/or porphobilriogen tests.	38	80	20	50	0	50	56	22	22
545. Perform total protein tests.	93	100	0	71	14	15	71	7	22
546. Perform salicylate level tests.	42	82	18	27	9	64	30	30	40
547. Perform sodium determinations.	93	100	0	86	7	7	71	7	22
548. Perform thymol turbidity tests.	23	50	50	17	0	83	40	40	20
549. Perform blood urea nitrogen (BUN) tests.	100	100	0	73	20	7	73	7	20
550. Perform xylose tolerance tests.	19	80	20	20	0	80	40	60	0
551. Centrifuge and separate serum from clot.	93	93	7	100	0	0	21	50	29
552. Crossmatch blood.	65	76	24	47	24	29	94	0	6
553. Perform antibody screen and identification tests.	73	100	0	45	9	46	73	0	27

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
554. Perform antibody titers (dilutions).	50	62	38	27	13	60	75	17	8
555. Perform direct and indirect Coombs tests.	67	90	10	40	20	40	70	0	30
556. Perform genotype of blood.	58	67	33	43	21	46	69	15	16
557. Perform transfusion reaction studies.	67	100	0	30	0	70	70	0	30
558. Prepare and read slide/tube agglutination reactions.	73	79	21	42	26	32	67	22	11
559. Process blood for packed cells.	53	87	13	13	13	74	63	12	25
560. Test blood for ABO grouping and ABO subgrouping.	65	71	29	47	29	24	81	12	7
561. Test blood for RH or DU factors.	73	91	9	45	10	45	82	0	18
562. Embed/mount/section tissues in preparation for microscopic study.	15	50	50	25	25	50	50	25	25
563. Stain pap smears.	33	40	60	20	0	80	40	0	60
564. Stain specimens for microscopic study.	42	73	27	64	9	27	60	30	10
565. Identify and classify pathogenic bacteria/fungi/parasitic arthropods/protozoans/testodes/nematodes/trematodes.	67	73	27	20	30	50	80	0	20
566. Calculate erythrocyte indices.	69	67	33	50	11	39	65	29	16

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
567. Microscopically identify L.E. cells.	67	80	20	10	10	80	70	0	30
568. Identify morphological variations of red or white blood cells.	92	63	37	83	4	13	91	0	9
586. Review patient's clinical history.	*								
587. Load and unload film units.	27	75	25	75	25	0	25	50	25
588. Affix lead shield to cassette for identification.	*								
589. Prepare contrast media such as barium sulphate.	27	100	0	50	25	25	25	25	50
591. Take X-rays (dental/abdominal/spinal/chest/etc.).	33	80	20	40	20	40	80	0	20
592. Take X-rays of ribs and sternum, extremities.	*								
593. Operate image intensifier fluoroscopic units.	27	75	25	33	33	33	100	0	0
595. Assist with cerebral angiograms, bronchiograms, arthrograms, hysterosalpingograms.	*								
597. Assist with sialograms, scanograms, pneumoencephalograms, urographic studies.	*								
599. Assist with X-rays for cholecystographic studies.	27	100	0	50	25	25	100	0	0
601. Assist with X-rays of small intestine, pelvimetric studies.	33	80	20	40	20	40	80	0	20

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
603. Develop technical procedures for special radiology examination.	*								
610. Perform artificial respiration.	*								
622. Recognize expected reactions to treatment.	*								
624. Minimize hazards throughout the health care facility.	23	33	67	17	0	83	17	17	66
625. Arrange equipment for convenient and safe use.	27	75	25	100	0	0	25	0	75
627. Accurately measure body temperature and read clinical thermometer for oral, rectal and axillary temperature.	20	100	0	67	0	33	33	0	67
631. Read cardiac monitors.	27	50	50	50	0	50	75	0	25
634. Knows routine for fire in patient area and demonstrates knowledge of procedures for securing the building and reassuring and aiding patients.	35	44	56	11	11	78	0	25	75
635. Has an understanding of fire prevention and control.	67	20	80	44	12	44	44	12	44
641. Instruct patient about available self-help devices.	20	67	33	0	50	50	100	0	0
645. Immediately report deviations of patient's vital signs from the normal.	33	80	20	75	0	25	75	25	0

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
646. Follow procedures in care of isolated patients.	33	80	20	75	0	25	75	25	0
647. Instruct patient with regard to collection of specimen (fecal, urine, eye, nose, throat).	73	73	27	10	20	70	50	20	30
648. Prepare, instruct and assist patient during EKG test.	42	82	18	36	0	64	45	27	28
651. Direct patient to project completion by praise and encouragement.	27	25	75	0	33	67	33	0	67
657. Apply coagulants or administer hemo-statics.	*								
667. Suction patient's nose/throat passage.	20	100	0	0	33	67	67	33	0
668. Administer medications/isotopes to patients by injection/orally.	*								
670. Abstract simple data from patient's chart.	15	50	50	50	25	25	0	0	100
671. Position, gown/drape patient.	*								
672. Prep patient using correct procedures and solutions.	*								
689. Dispose of contaminated materials and equipment.	33	20	80	40	40	20	20	40	40
692. Clean and maintain service area and equipment, within area of responsibility.	65	71	29	88	6	6	18	29	53

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
693. Order/inventory and store equipment and supplies.	47	57	43	0	57	43	14	29	57
694. Calibrate nuclear medical instruments.	*								
695. Verify performance of instruments/devices against manufacturer's specifications.	33	60	40	40	40	20	40	20	40
696. Determine if equipment needs repair.	58	47	53	40	27	33	21	21	58
697. Schedule/perform maintenance on equipment.	47	71	29	71	14	15	29	29	42
698. Store/handle radioisotopes safely.	*								
699. Safely dispose of radioactive wastes.	20	33	67	67	0	33	67	0	33
700. Inventory radiopharmaceuticals and materials.	*								
702. Clean, sharpen and maintain instruments/equipment as required.	58	67	33	67	20	13	13	27	60
703. Control contractual services for maintenance of equipment/facilities.	*								
704. Maintain unexposed radiographic film storage.	*								
705. Establish and maintain chain of antisepsis.	*								
706. Prepare instruments for sterilization (chemical, autoclaving, dry heat).	15	75	25	25	25	50	25	0	75

<u>Competency</u>	<u>Practice Rate</u>	<u>Type</u>		<u>Use Frequency</u>			<u>Training Needed</u>		
		<u>S</u>	<u>U</u>	<u>D</u>	<u>W</u>	<u>M</u>	<u>I</u>	<u>D</u>	<u>E</u>
707. Sterilize instruments (chemical, autoclaving, dry heat).	33	80	20	20	40	40	20	20	60
708. Inspect all areas and rooms for proper house-keeping, temperature, and adequate supplies.	31	37	63	75	0	25	0	0	100
709. Clean and polish removable appliances.	27	75	25	50	25	25	25	0	75
711. Check and record temperatures of appliances/equipment.	47	57	43	71	14	15	14	29	57
712. Store/dispose of used blood containers and pilot tubes.	50	77	23	54	15	31	15	15	70
713. Check invoices against purchase orders.	40	33	67	0	67	33	17	33	50
714. Organize storage areas for equipment, supplies, drugs.	23	100	0	33	67	0	33	0	67
719. Follow procedures for control and security of medical supplies, drugs, equipment.	33	80	20	100	0	0	20	20	60